



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,303	02/24/2004	Wilson Wong	015114-068500US	2302
26059	7590	08/23/2005	EXAMINER	
TOWNSEND AND TOWNSEND AND CREW LLP/ 015114				CHO, JAMES HYONCHOL
TWO EMBARCADERO CENTER				ART UNIT
8TH FLOOR				2819
SAN FRANCISCO, CA 94111-3834				PAPER NUMBER

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/708,303	WONG ET AL.
	Examiner James Cho	Art Unit 2819

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 24 February 2004.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) 9-20 is/are allowed.

6) Claim(s) 1 and 6-8 is/are rejected.

7) Claim(s) 2-5 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 24 February 2004 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/04,3/04.

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ .
5) Notice of Informal Patent Application (PTO-152)
6) Other: ____ .

DETAILED ACTION

Drawings

The drawings are objected to because lines, numbers & letters in Fig 7 are not uniformly thick and well defined, clean, durable, and black. 37 CFR 1.84(l). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the predrivers in claims 9-20 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New

Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 6-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Groen et al. (US PAT No. 6,870,390).

Regarding claim 1, Fig. 5 of Groen et al. teaches a method of operating an integrated circuit comprising : providing a differential output driver (Fig. 5) at an output of the integrated circuit, wherein the differential output driver has a first slew rate mode and a second slew rate mode (slew rate logic 226 adjusts the slew rate; col. 10, lines 61-66); configuring the differential output driver to operate in the first or second slew rate mode (slew rate logic 226 configures the output buffer 180 into appropriate slew rate based on the received data rate; col. 10, line 66 - col. 11, line 5); when in the first slew rate mode, providing an input signal having a first edge rate to an input of the differential output driver (capacitor array in conjunction w/ pre-driver module 182

provides a signal input to 202 and 204 whose slew rate is based on the capacitors selected, e.g. one capacitor) and when in the second slew rate mode (two parallel capacitor being selected), signal having a second providing an input edge rate to the input of the differential output driver, wherein the second slower than the first edge rate. edge rate is (two parallel capacitors adjust the slew rate slower than a single capacitor; col. 10, lines 10-16).

Regarding claim 6, Fig. 5 of Groen et al. teaches the method of claim 1, wherein the differential output driver comprises a plurality of NMOS transistors (218,220,202, 204), each of the plurality having a different number of legs (different slew rate requires different number of capacitors, i.e. different legs, i.e. drains and sources coupled) , and a separate gate input (218,220,202,204 has its own gate), and the input signal is coupled to one of more of the separate gate inputs of the plurality of NMOS transistors (input signal is coupled to the gate of 218,220,202,204).

Regarding claim 7, Fig. 5 of Groen et al. teaches the method of claim 1, wherein the integrated circuit is a programmable logic integrated circuit (Fig. 4B where line driver is a part of programmable transmit PMA module).

Regarding claim 8, Fig. 5 of Groen et al. teaches the method of claim 1 wherein configuring the differential output driver to operate in the first and the second slew rate mode comprises a programming an SRAM memory cell, EPROM memory cell,

EEPROM memory cell, or Flash memory cell (the intended use of the line driver of Groen et al. can be in any interface environment, e.g. SRAM, EPROM, EEPROM, Flash memory: It has been held that a recitation directed to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).).

Allowable Subject Matter

Claims 9-20 are allowable over the prior art of record.

Claims 2-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Although Groen et al. teaches a line driver with selectable slew rate, one of ordinary skill in the art would not have been motivated to modify the teaching of Groen et al. to further includes, among other things, the specific of the input signal driving the differential output driver being less swing voltage in the second slew rate mode compared to in the first slew rate mode (claim 2), the specifics of the output driver having first and second PMOS and first , second NMOS transistors and an impedance coupled between the first and second output node (claim 3), the specifics of a predriver providing different signal swing to the input of the differential output driver (claim 9), the specifics of a first, second and a third predriver coupled to first, second and the third

control electrodes respectively where the first, second and third predriver is enabled to drive the differential output driver (claims 14 and 18).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fiedler (US PAT No. 6,417,708) discloses a resistively-loaded current-mode output buffer with slew rate control.

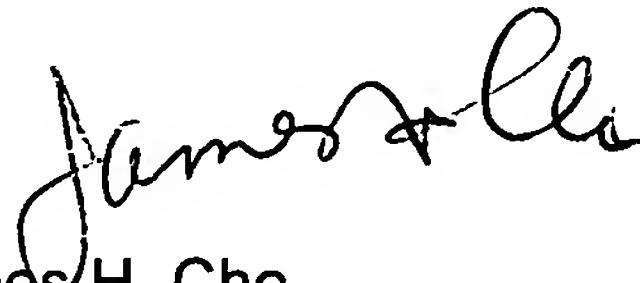
Hoff (US PAT No. 6,307,414) discloses a slew rate/propagation delay selection circuit.

Tinsley et al. (US PAT No. 6,411,126) discloses output slew rate control for a differential transmission line driver.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Cho whose telephone number is 571-272-1802. The examiner can normally be reached on M-F 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Tokar can be reached on 571-272-1812. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



James H. Cho
Primary Examiner
Art Unit 2819

Date: 8-17-2005